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- ** Admitted in CT only

December 16, 2004

MS Amendment Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Re:

U.S. Patent Application No.: 10/799,943

For: ADIPONECTIN RECEPTOR AND GENE ENCODING THE SAME

Inventors: Takashi Kadowaki, et al.

Filed: March 11, 2004 Our Ref. No.: ARV-002

Dear Sir:

I enclose herewith for filing in the above-identified application the following:

- 1. Information Disclosure Statement;
- 2. PTO Form SB/08;
- 3. Copies of all references cited in PTO Form SB/08 (30); and
- 4. A Return Postcard.

No additional costs are believed to be due in connection with the filing of this Information Disclosure Statement. However, please charge any necessary fees in connection with the enclosed statement to our Deposit Order Account No. 12-0080. For this purpose, a duplicate of this sheet is attached.

I hereby certify that this correspondence is deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on:

December 16, 2004

Date

DeAnn F. Smith, Esq., Registration No. 36,683

Respectfully submitted,

LAHIVE & COCKFIELD, LLP

DeAnn F. Smith, Esq. Registration No. 36,683 Attorney for Applicants

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Te the application of: Taskashi Kadowaki, et al.

Serial No.: 10/799,943

Filed: March 11, 2004

For: ADIPONECTIN RECEPTOR AND GENE

ENCODING THE SAME

Attorney Docket No.: ARV-002

MS Amendment Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Group Art Unit: 1632

Examiner: Not Yet Assigned

Certificate of First Class Mailing (37 CFR §1.8(a))

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on the date set forth below.

December 16, 2004

Date of Signature and of Mail Deposit

By:

DeAnn F. Smith, Esq.

Registration No. 36,683 Attorney for Applicants

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

Applicants and their Attorney are aware of the following publications and information, listed on the attached PTO Form SB/08, and in accordance with 37 CFR §1.97 hereby submit these publications for the Examiner's consideration. A copy of each cited publication is enclosed.

This statement is not to be interpreted as a representation that the cited publications are material, that an exhaustive search has been conducted, or that no other relevant information exists. Nor shall the citation of any publication herein be construed *per se*

Serial Number: 10/799,943 Page -2- Group Art Unit: 1632

as a representation that such publication is prior art. Moreover, Applicants understand that the Examiner will make an independent evaluation of the cited publications.

Under 37 CFR § 1.97(b)(3), no additional costs are believed to be due in connection with the filing of this disclosure. <u>If, however, a first Office Action on the merits issues in this application bearing a mailing date prior to the date of this Information Disclosure Statement</u>, please charge the appropriate fee as required under 37 CFR §1.17(p) to our Deposit Order Account No. 12-0080.

Respectfully submitted, LAHIVE & COCKFIELD, LLP

DeAnn F. Smith, Esq. Registration No. 36,683 Attorney for Applicants

28 State Street Boston, MA 02109 (617) 227-7400

Date: December 16, 2004

DFS/DLN/rl Enclosures

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Substitute for form 1449A/B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 3

Complete if Known						
Application Number	10/799,943					
Filing Date	March 11, 2004					
First Named Inventor	Takashi Kadowaki					
Art Unit	1632					
Examiner Name	Not Yet Assigned					
Attorney Docket Number	ARV-002					

	U.S. PATENT DOCUMENTS							
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			

	FOREIGN PATENT DOCUMENTS									
Examiner	Cite	Foreign Patent Document	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear					
Initials*	No.1	Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	MM-DD-YYYY	Applicant of Cited Document		₽				
	A1	JP 2002/383738		Center for Advanced Science		П				
<u> </u>		and Technology Incubation, Ltd.		Ш						
ł	A2	WO 2004/061108 A1	06-12-2003	Center for Advanced Science						
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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	A3	Barger, P.M., et al. "p38 mitogen-activated protein kinase activates peroxisome proliferator-activated receptor alpha: a potential role in the cardiac metabolic stress response." J Biol Chem. 2001 Nov 30; 276(48):44495-501.	
-	A4	Berg, A.H., et al. "The adipocyte-secreted protein Acrp30 enhances hepatic insulin action." Nat. Med. 2001 Aug; 7(8):947-53.	
	A5	Combs, T.P., et al. "Endogenous glucose production is inhibited by the adipose-derived protein Acrp30." J Clin Invest. 2001 Dec; 108(12):1875-81.	
	A6	Friedman, J.M. "Obesity in the new millennium." Nature. 2000 Apr 6; 404(6778):632-4.	
	A7	Fruebis, J., et al. "Proteolytic cleavage product of 30-kDa adipocyte complement-related protein increases fatty acid oxidation in muscle and causes weight loss in mice." Proc Natl Acad Sci USA. 2001 Feb 13; 98(4):2005-10.	
	A8	Hotamisligil, G.S. "The role of TNFalpha and TNF receptors in obesity and insulin resistance." <i>J Intem Med.</i> 1999 Jun; 245(6):621-5.	
	A9	Hu, E., et al. "AdipoQ is a novel adipose-specific gene dysregulated in obesity." J Biol Chem. 1996 May 3; 271(18):10697-703.	

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Examiner	 •	Date	
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l s	TATEMENT E	3Y /	APPLICANT	First Named Inventor	Takashi Kadowaki	
				Art Unit	1632	
(Use as many sheets as necessary)		Examiner Name	Not Yet Assigned			
Sheet	2	of	3	Attorney Docket Number ARV-002		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Cite No. ¹	and/or country where published.	T²
· ·	B1	Karpichev, I.V., et al. "Multiple regulatory roles of a novel Saccharomyces cerevisiae protein, encoded by YOL002c, in lipid and phosphate metabolism." J Biol Chem. 2002 May 31; 277(22):19609-17.	
	B2	Matsuzawa, Y., et al. "Molecular mechanism of metabolic syndrome X: contribution of adipocytokines adipocyte-derived bioactive substances." <i>Ann NY Acad Sci.</i> 1999 Nov 18; 892:146-54.	
	B3	Michael, L.F., et al. "Restoration of insulin-sensitive glucose transporter (GLUT4) gene expression in muscle cells by the transcriptional coactivator PGC-1." Proc Natl Acad Sci USA. 2001 Mar 27; 98(7):3820-5.	
	B4	Okazaki, Y., et al. "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs." <i>Nature</i> . 2002 Dec 5; 420(6915):563-73.	
	B5	Ouchi, N., et al. "Adipocyte-derived plasma protein, adiponectin, suppresses lipid accumulation and class A scavenger receptor expression in human monocyte-derived macrophages." Circulation. 2001 Feb 27; 103(8):1057-63.	
	B6	Puigserver, P., et al. "Cytokine stimulation of energy expenditure through p38 MAP kinase activation of PPARgamma coactivator-1." Mol Cell. 2001 Nov; 8(5):971-82.	
	В7	Reaven, G.M. "The fourth musketeerfrom Alexandre Dumas to Claude Bernard." Diabetologia. 1995 Jan; 38(1):3-13.	
	B8	Ruderman, N.B., et al. "Malonyl-CoA, fuel sensing, and insulin resistance." Am J Physiol. 1999 Jan; 276(1 Pt 1):E1-E18.	
	B9	Scheer, A., et al. "Constitutively active mutants of the alpha 1B-adrenergic receptor: role of highly conserved polar amino acids in receptor activation." EMBO J. 1996 Jul 15; 15(14): 3566-78.	
	B10	Shimomura, I., et al. "Enhanced expression of PAI-1 in visceral fat: possible contributor to vascular disease in obesity." Nat Med. 1996 Jul; 2(7):800-3.	
	B11	Shulman, G.I., et al. "Cellular mechanisms of insulin resistance." J Clin Invest. 2000 Jul; 106(2):171-6.	
	B12	Spiegelman, B.M., et al. "Adipogenesis and obesity: rounding out the big picture." Cell. 1996 Nov 1; 87(3):377-89.	
	B13	Steppan, C.M., et al. "The hormone resistin links obesity to diabetes." Nature. 2001 Jan 18; 409(6818):307-12.	
	B14	Waterston, R.H., et al. "Initial sequencing and comparative analysis of the mouse genome." Nature. 2002 Dec 5; 420(6915):520-62.	
	B15	Wess, J. "G-protein-coupled receptors: molecular mechanisms involved in receptor activation and selectivity of G-protein recognition." FASEB J. 1997 Apr; 11(5):346-54.	

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(Use as many sheets as necessary)			necessary)	Examiner Name	Not Yet Assigned	
Sheet	3	of	3	Attorney Docket Number	ARV-002	

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	C1	White, R.T., et al. "Human adipsin is identical to complement factor D and is expressed at high levels in adipose tissue." J Biol Chem. 1992 May 5; 267(13):9210-3.					
	C2	Yamauchi, T., et al. "The fat-derived hormone adiponectin reverses insulin resistance associated with both lipoatrophy and obesity." Nat Med. 2001 Aug; 7(8):941-6.					
	СЗ	Yamauchi, T., et al. "Adiponectin stimulates glucose utilization and fatty-acid oxidation by activating AMP-activated protein kinase." Nat Med. 2002 Nov; 8(11):1288-95.					
	C4	Yamauchi, T., et al. "Globular adiponectin protected ob/ob mice from diabetes and ApoE-deficient mice from atherosclerosis." J Biol Chem. 2003 Jan 24; 278(4):2461-8.					
	C5	Yokomizo, T., et al. "A G-protein-coupled receptor for leukotriene B4 that mediates chemotaxis." Nature. 1997 Jun 5; 387(6633):620-4.					
	C6	Yokota, T., et al. "Adiponectin, a new member of the family of soluble defense collagens, negatively regulates the growth of myelomonocytic progenitors and the functions of macrophages." Blood. 2000 Sep 1; 96(5):1723-32.					

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